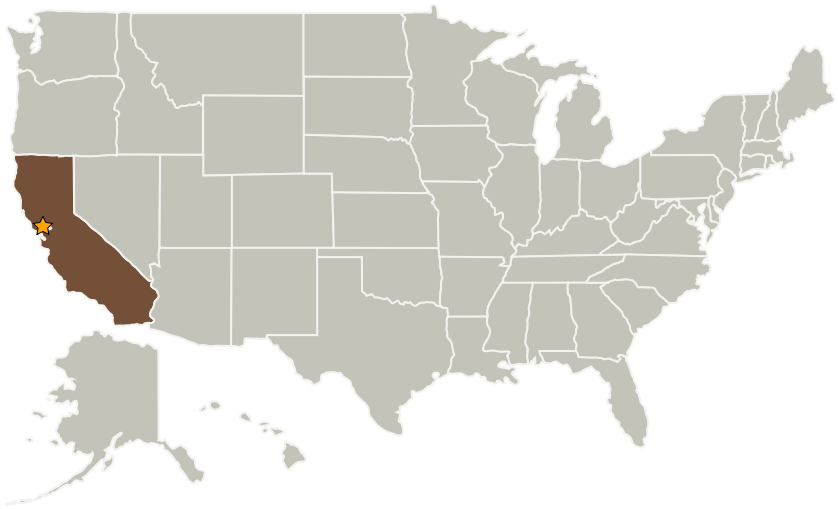
High Interactivity Visualization Software for Large Computational Data Sets, Phase I

Completed Technology Project (2008 - 2008)

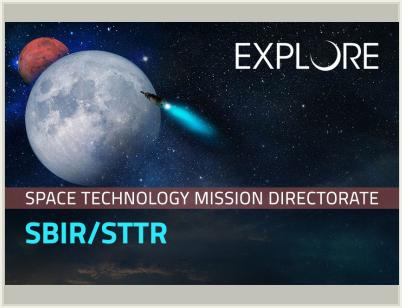
Project Introduction

We propose to develop a collection of computer tools and libraries called SciViz that enable researchers to visualize large scale data sets on HPC resources remotely from their workstations at interactive rates. The proposed technology will interoperate with common existing scientific visualization software and provide equivalent core functionality optimized for very large data sets. Existing scientific visualization tools have specific limitations for large scale scientific data sets. Of these four limitations can be seen as paramount: (a) Memory Management, (b) Remote Visualization, (c) Interactivity, and (d) Specificity. SciViz overcomes these four issues and uses stack oriented approach in order to produce tools that can be more easily and widely adopted with minimal interruption within existing visualization environments. SciViz will be an open source implementation.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
SciberQuest, Inc.	Supporting Organization	Industry	Del Mar, California



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations
California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Homa Karimabadi

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.4 Information Processing
    - TX11.4.3 Semantic Technologies